



U.S. Army Aviation Technical Test Center

The Leading Edge in Army Aviation

Helicopter Icing Spray System (HISS)

... the most capable airborne, low airspeed, artificial icing capability in the world

HISS advantages to the customer

- Permits initial testing to be conducted in visual meteorological conditions, allowing rapid exit from the icing situation should a problem arise
- Establishes confidence in the reliability and capability of anti-ice/de-ice systems before flight in natural icing conditions
- Places the test aircraft under constant surveillance by experienced personnel with excellent photographic documentation capabilities
- Provides extreme combinations of cloud conditions which are not easily found in nature
- Provides a controlled icing environment when natural icing conditions are not available



This unique national asset supports multiservice aviation development and icing certification

Generates customized cloud characteristics and artificial icing conditions for the accretion of various ice forms



Water spray tankers have proven to be the safest, most effective means of producing controlled icing conditions

HISS Icing Cloud Characteristics

Cloud Size: 8 ft high by 36 ft wide

Liquid Water Content: 0.25-1.0 gram/cubic meter

Median Volumetric Diameter: 20-70 microns

Airspeed Range: 80-125 knots (calibrated)

Altitude Range: 1500 ft AGL to 10,000 ft MSL

HISS Rain Cloud Characteristics

Cloud Size: 8 ft high by 36 ft wide (maximum)

6 ft by 6 ft (minimum)

Rainfall Rate: Up to 5 in/hr

Drop Diameter: 1 to 3 mm